

Chapter 6

Mitigation

An alternative to the Proposed Action is to approve the Proposed Action with conditions, including environmental mitigation measures designed to eliminate or minimize potential environmental effects (see Section 2.3.2, above). Chapter 6 presents SEA's preliminary recommended environmental mitigation measures, which are based on its environmental analysis of the Proposed Action. When identifying mitigation measures, SEA considered a wide variety of interests, including those of communities, Federal and state agencies, Native American groups, local and regional governments, forest preserve districts, regional planners, environmental organizations, and the public. As presented in greater detail in Chapter 9, SEA undertook extensive public outreach activities to give the public, agencies, and other interested parties the opportunity to learn about the Proposed Action, define the issues, and participate in the environmental review. To gather the extensive environmental data necessary for this Draft EIS, SEA conducted technical analyses, consultations, and site visits. SEA used all of the information it gathered to develop appropriate preliminary mitigation recommendations to supplement the Applicants' voluntary mitigation, as discussed below.

6.1 Overview of SEA's Approach

In conducting the environmental review, SEA has taken a hard look at the environmental consequences of the Proposed Action and alternatives as required by NEPA. The potential environmental effects that SEA identified would be both beneficial and adverse. Chapters 3 and 4 discuss in detail the affected environment and potential environmental benefits and effects. Based on the information available to date, consultations with appropriate agencies, and extensive environmental analysis, SEA has proposed environmental mitigation measures to address the potential environmental impacts of the Proposed Action. For some issue areas, SEA sets out a range of options for public review and comment. The Draft EIS also included the voluntary mitigation the Applicants have submitted. The Final EIS will contain all of the mitigation options SEA recommends the Board impose should the Proposed Action be approved. SEA's environmental analysis and its resulting preliminary environmental mitigation recommendations reflect the variety and complexity of the environmental issues and offer a reasonable and feasible way of minimizing some of the environmental impacts discovered during the course of SEA's environmental review. As discussed below, SEA also encourages negotiations between Applicants and potentially affected communities, or others, to reach mutually acceptable solutions to address the parties' concerns. Sometimes negotiated solutions can be more far-reaching than mitigation the Board could unilaterally impose.

6.1.1 Limits of Conditioning Power

The Board has authority to impose conditions to mitigate potential environmental impacts, but that authority is not limitless. As a government agency, the Board can only impose conditions that are consistent with its statutory authority. Any conditions the Board imposes must relate directly to a specific transaction, must be reasonable, and must be supported by the record before the Board. The Board's practice consistently has been to mitigate only those impacts that result directly from a proposed action. The Board cannot require mitigation for existing environmental conditions, such as the effects of current railroad operations.

6.1.2 Voluntary Mitigation and Negotiated Agreements

SEA encourages applicants to propose voluntary mitigation. In some situations, voluntary mitigation could replace mitigation that the Board might otherwise impose, or it could supplement mitigation that the Board might impose. Because applicants seeking Board authority may gain substantial knowledge about the issues involved during project planning, and because they consult with regulatory agencies and communities during the regulatory process, applicants often propose relevant voluntary mitigation. In this proceeding for the Proposed Action the Applicants' proposed voluntary mitigation is discussed in detail in Section 6.2, below.

As an alternative to the mitigation that the Board might unilaterally impose upon applicants, SEA encourages applicants to negotiate mutually acceptable agreements with affected communities and other government entities to address potential environmental impacts, if appropriate. Negotiated agreements can be with neighborhoods, communities, cities, counties, regional coalitions, states, or other entities. In order to add incentive and structure to potential negotiations, SEA has, in some cases in this Draft EIS, identified a range of mitigation options instead of one specific mitigation approach. It is SEA's hope that the range of mitigation options would provide insight into the bounds that SEA considers reasonable.

The Applicants state that they "have approached all of the communities that would be affected by the [Proposed Action] and [are] in active negotiations with several of those communities" (Applicants 2008). If Applicants submit any negotiated agreements with communities or other entities to the Board, the Board would then require compliance with the terms of any such agreements as environmental conditions in any final decision approving the Proposed Action. These negotiated agreements would supersede any environmental conditions for that particular community or other entity that the Board would otherwise impose (that is, site-specific or local mitigation).

6.1.3 Preliminary Nature of Environmental Mitigation

SEA emphasizes that the recommended environmental mitigation measures in the Draft EIS are preliminary, and welcomes public and agency comment on those measures. In order for SEA to assess the comments effectively, the public must be specific about any desired mitigation and the reasons why the suggested mitigation would be appropriate. SEA should receive any requests for mitigation by the close of the public comment period for the Draft EIS (September 30, 2008). Based on public comment and agency input, SEA will consider all mitigation measures carefully before making its final recommendations to the Board.

SEA requests that the freight and passenger railroads serving the Chicago metropolitan area, communities, and other interested parties advise SEA of the status of any negotiations that address environmental concerns during the comment period for the Draft EIS, if appropriate. If the parties execute a mutually acceptable, negotiated agreement, they should immediately advise SEA in writing. SEA also requests that the Applicants report to SEA the results of any consultations by the close of the public comment period for the Draft EIS, if appropriate. Negotiated agreements between the Applicants and affected communities may be reached and submitted to SEA at any time while the proceeding is pending before the Board. If the Board imposes an oversight period (as discussed in Section 6.5, below), negotiated agreements between the Applicants and affected communities may be submitted to SEA during that oversight period.

After considering all public comments on the Draft EIS, SEA will make its final recommendations on environmental mitigation to the Board in the Final EIS. The Board will then make its final decision regarding the Proposed Action after considering any environmental conditions that it might impose. In making its decision, the Board will consider the evidence on the transportation merits, the Draft EIS, the Final EIS, public comments, and SEA's final environmental mitigation recommendations. In considering whether to approve the Proposed Action, the Board must weigh the anticipated public

benefits against the potential adverse effects to the national transportation system, interstate commerce, and affected regions and communities.

6.2 Applicants' Voluntary Mitigation Measures

On June 26, 2008, the Applicants submitted their proposed voluntary mitigation measures to SEA for the Board to consider in issuing its final decision (Applicants 2008o). SEA has reviewed the voluntary mitigation measures and should the Proposed Action be approved, SEA would recommend that the Board require the Applicants to comply with all of the voluntary mitigation measures submitted.

Below, SEA presents the Applicants' 70 voluntary mitigation measures (identified by the Applicants as VM-#), verbatim, from their letter dated June 26, 2008 (Applicants 2008o). The Applicants organized the individual mitigation measures by the Environmental Impact Categories found in the Final Scope of Study (FR 2008b). See Appendix R for the Applicants' letter containing their voluntary mitigation measures.

6.2.1 Safety

6.2.1.1 *Grade Crossings*

- VM 1. Applicants shall consult with appropriate agencies to determine the final design and other details of the grade crossing protections or rehabilitations on EJ&EW's¹ rail line. Implementation of all grade crossing protections shall be subject to the review and approval of the Federal Railroad Administration ("FRA") and the appropriate state Departments of Transportation.
- VM 2. Where necessary for implementation of a Quiet Zone², and in consultation with the affected community, FRA, and the appropriate state Department of Transportation, Applicants shall construct or install roadway median barriers to reduce the opportunity for vehicles to maneuver around a lowered gate.
- VM 3. Applicants shall consult with affected communities to improve visibility at highway rail at-grade crossings by clearing vegetation or installing lighting to illuminate passing or stopped trains.
- VM 4. Where grade-crossing rehabilitation is agreed to, Applicants shall assure that rehabilitated roadway approaches and rail line crossings meet or exceed the standards of the State Department of Transportation's rules, guidelines, or statutes, and the American Railway Engineering and Maintenance of Way Association ("AREMA") standards, with a goal of eliminating rough or humped crossings to the extent reasonably practicable.
- VM 5. For each of the public grade crossings on EJ&EW's rail line, Applicants shall provide and maintain permanent signs prominently displaying both a toll-free telephone number and a unique grade-crossing identification number in compliance with Federal Highway Regulations (23 CFR Part 655). The toll-free number shall enable drivers to report

¹ Here the Applicants use EJ&EW to refer to the EJ&E West Company. As SEA explains in Chapter 1, Section 1.1, EJ&E would transfer all of its land, rail, and related assets west of the centerline of Buchanan Street in Gary, Indiana to EJ&E West Company. The Applicants are seeking the Board's approval to acquire control of the EJ&E West Company. Should the Board approve the Proposed Action, EJ&E would change its name to Gary Railway and the EJ&E West Company would assume the EJ&E Company name. This Draft EIS refers to EJ&E West Company as EJ&E.

² A Quiet Zone is a location along a rail line where horns are not sounded at highway/rail at-grade crossings. For a discussion of Quiet Zones see Section 4.2.4, above.

- accidents, malfunctioning warning devices, stalled vehicles, or other dangerous conditions and shall be answered 24 hours per day by Applicants' personnel. At crossings where EJ&EW's right-of-way ("ROW") is close to another rail carrier's crossing, Applicants shall coordinate with the other rail carrier to establish a procedure and share information regarding reported accidents and grade-crossing device malfunctions.
- VM 6. Applicants shall work with school and park districts to provide fencing where schools or parks are adjacent to EJ&EW's right of way.
- VM 7. Applicants shall continue ongoing efforts with community officials to identify elementary, middle, and high schools within 0.5 miles of EJ&EW's ROW and provide, upon request, informational materials concerning railroad safety to such identified schools.
- 6.2.2 Hazardous Materials Transportation**
- VM 8. Applicants shall comply with the current Association of American Railroads ("AAR") "key route" guidelines, found in AAR Circular No. OT-55-I, and any subsequent revisions.
- VM 9. Applicants shall comply with the current AAR "key train" guidelines, found in AAR Circular No. OT-55-I, and any subsequent revisions.
- VM 10. To the extent permitted and subject to applicable confidentiality limitations, Applicants shall distribute to each local emergency response organization or coordinating body in the communities along the key routes a copy of the Applicants' current Hazardous Materials Emergency Response Plans.
- VM 11. Applicants shall incorporate EJ&EW into their existing Hazardous Materials Emergency Response Plan.
- VM 12. Applicants shall comply with United States Department of Transportation hazardous materials regulations when handling, storing, or disposing of hazardous materials. Applicants shall dispose of all materials that cannot be reused in accordance with applicable law.
- VM 13. Upon request, Applicants shall implement real-time or desktop simulation emergency response drills with the voluntary participation of local emergency response organizations.
- VM 14. Applicants shall continue their ongoing efforts with community officials to identify the public emergency response teams located along EJ&EW and shall provide, upon request, hazardous material training.
- VM 15. In accordance with their Emergency Response Plan, Applicants shall make the required notifications to the appropriate Federal and state environmental agencies in the event of a reportable hazardous materials release. Applicants shall work with the appropriate agencies such as the United States Fish and Wildlife Service, Illinois Environmental Protection Agency and Indiana Department of Environmental Management to respond to and remediate hazardous materials releases with the potential to affect wetlands or wildlife habitat(s), particularly those of federally threatened or endangered species.

- VM 16. Prior to initiating any Transaction³-related construction activities, Applicants shall develop a spill prevention plan for petroleum products or other hazardous materials during construction activities. At a minimum, the spill prevention plan shall address the following:
- Definition of what constitutes a reportable spill;
 - Requirements and procedures for reporting spills to appropriate government agencies;
 - Methods of containing, recovering, and cleaning up spilled material;
 - Equipment available to respond to spills and location of such equipment; and
 - List of government agencies and Applicants' management personnel to be contacted in the event of a spill. In the event of a reportable spill, Applicants shall comply with their spill prevention plan and applicable Federal, state, and local regulations pertaining to spill containment and appropriate clean-up.

6.2.3 Transportation Systems

6.2.3.1 *Grade Crossing Delay*

- VM 17. Applicants have identified two public highway/rail at-grade crossings located in Joliet [Illinois] (Woodruff Road [MP 0.82, Segment EJE-8A, USDOT# 260597M] and Washington Street [MP 0.95, Segment EJE-7A, USDOT# 260601A]) where traffic delays would likely require mitigation to reduce impacts below SEA's established criteria of significance. Applicants shall work in consultation with the City of Joliet to develop and implement appropriate mitigation, most likely the construction of railroad facilities to permit increased train speeds and reduced crossing delays.
- VM 18. Although Applicants have not identified any other grade crossings that would require mitigation under SEA's established standards⁴, Applicants shall, upon request, work with municipalities and counties in support of securing funding, in conjunction with appropriate state agencies, for grade separations where they may be appropriate under criteria established by relevant state Department of Transportation. Applicants shall contribute their statutorily required amount of funding⁵ to the cost of the grade separation.
- VM 19. Applicants shall install power switches along EJ&EW where Applicants determine that manual switches could cause stopped trains to block grade crossings for excessive periods of time and that power switches would increase the speed of rail traffic and reduce the likelihood of such blockages.
- VM 20. In order to minimize the number of trains being stopped by operators at locations that block grade crossings on the EJ&EW system, Applicants shall work with other railroads to establish reasonable and effective policies and procedures to prevent other railroads' trains from interfering with Applicants' trains on EJ&EW.

³ Here the Applicants use Transaction to refer to the Proposed Action. This Draft EIS uses the term Proposed Action to define the Applicants' proposal to acquire the EJ&E rail line, land and related assets.

⁴ SEA's environmental rules are silent on standards for at-grade crossing delay. Applicants frequently use criteria established in prior transactions as a basis for evaluating impacts. For a complete discussion of at-grade crossing delay issues see Section 4.3.1, above.

⁵ The Applicants statutorily required amount of funding typically is 5 percent of the total cost of the grade-separated crossing.

6.2.3.2 *Emergency Vehicle Delay*

- VM 21. Applicants shall notify Emergency Services Dispatching Centers for communities along the affected segments of all crossings blocked by trains that are stopped and may be unable to move for a significant period of time.
- VM 22. Applicants shall work with affected communities to minimize emergency vehicle delay by:
- maintaining facilities for emergency communication with local Emergency Response Centers through a dedicated toll-free telephone number; and
 - providing, upon request, dispatching monitors that allow Emergency Response Center dispatching personnel to see real-time train locations.
- VM 23. Applicants shall make Operation Lifesaver⁶ programs available to communities, schools, and other organizations located along the affected segments.

6.2.3.3 *Construction*

- VM 24. At least one month prior to initiation of Transaction-related construction activities, Applicants shall provide the information described below regarding Transaction-related construction of sidings, double-tracking, or connections, as well as any additional information, as appropriate, to fire departments and the Local Emergency Planning Commissions (“LEPC”) for communities within or adjacent to the construction area:
- The schedule for construction throughout the project area, including the sequence of construction work relating to public grade crossings and approximate schedule for these activities at each crossing;
 - A toll-free number to contact Applicants’ personnel, to answer questions or attend meetings for the purpose of informing emergency-service providers about the project construction and operations; and
 - Revisions to this information, including changes in construction schedule, as appropriate.
- VM 25. In undertaking Transaction-related construction activities, Applicants shall use practices recommended by AREMA and recommended standards for track construction in the AREMA Manual for Railway Engineering.
- VM 26. During Transaction-related construction concerning at-grade crossings, when reasonably practicable, Applicants shall consult with the appropriate state Department of Transportation regarding detours and associated signage, as appropriate, or maintain at least one open lane of traffic at all times to allow for the quick passage of emergency and other vehicles.

6.2.4 *Land Use*

6.2.4.1 *General Land Use*

- VM 27. Land areas that are directly disturbed by Applicants’ Transaction-related construction and are not owned by the Applicants (such as access roads, haul roads, and crane pads) shall be restored to their original condition, as may be reasonably practicable, upon completion of Transaction-related construction.

⁶ Operation Lifesaver is a non-profit education and awareness program that helps increase the public’s awareness of the dangers around rail lines.

- VM 28. During construction, temporary barricades, fencing, and/or flagging shall be used in sensitive habitats to contain construction-related impacts to the area within the construction Right Of Way ("ROW"). Staging areas shall be located in previously disturbed sites and not in sensitive habitat areas.
- VM 29. To the extent reasonably practicable, Applicants shall confine construction traffic to a temporary access road within the construction ROW or established public roads. Where traffic cannot be confined to temporary access roads or established public roads, Applicants shall make necessary arrangements with landowners to gain access from private roadways. The temporary access roads shall be used only during project-related construction. Any temporary access roads constructed outside the rail line ROW shall be removed and restored upon completion of construction unless otherwise agreed to with the landowners.
- VM 30. During Transaction-related earthmoving activities, Applicants shall remove topsoil and segregate it from subsoil. Applicants shall also stockpile topsoil for later application during reclamation of disturbed areas along the ROW. Applicants shall place the topsoil stockpiles in areas that would minimize the potential for erosion and use appropriate erosion control measures around all stockpiles to prevent erosion.
- VM 31. Applicants shall commence reclamation of disturbed areas as soon as reasonably practicable after Transaction-related construction ends along a particular stretch of rail line. The goal of reclamation shall be the rapid and permanent reestablishment of native ground cover on disturbed areas. If weather or season precludes the prompt reestablishment of vegetation, Applicants shall use measures such as mulching or erosion control blankets to prevent erosion until reseeding can be completed.
- VM 32. Applicants shall limit ground disturbance to only the areas necessary for Transaction-related construction activities.
- VM 33. Applicants shall require contractors to dispose of waste generated during Transaction-related construction activities in accordance with all applicable Federal, State, and local regulations.

6.2.4.2 Community Outreach

- VM 34. Prior to initiation of Transaction-related construction activities, Applicants shall name a Community Liaison to: consult with affected communities, businesses, and agencies; seek to develop cooperative solutions to local concerns regarding construction activities; be available for public meetings; and conduct periodic public outreach regarding Transaction-related construction activities. The Community Liaison shall be available to consult with businesses and agencies until all Transaction-related construction activities are complete. Applicants shall provide the name and phone number of the Community Liaison to mayors and other appropriate local officials in each community where Transaction-related construction activities will occur.
- VM 35. Applicants shall continue their ongoing community outreach efforts by maintaining, throughout the period of construction of Transaction-related sidings, double-track, and connections, a website about the construction.

6.2.4.3 Residential

- VM 36. Applicants' Transaction-related construction vehicles, equipment, and workers shall not access work areas by crossing residential properties without the permission of the property owner or occupant.

6.2.4.4 *Business and Industrial*

- VM 37. Applicants' Transaction-related construction vehicles, equipment, and workers shall not access work areas by crossing business or industrial areas, including parking areas or driveways, without advance notice to the business owner.
- VM 38. Applicants shall work with affected businesses or industries to appropriately redress Transaction-related construction activity issues affecting any business or industry.
- VM 39. To the extent reasonably practicable, Applicants shall ensure that entrances and exits for businesses are not obstructed by Transaction-related construction activities, except as required to move equipment.

6.2.4.5 *State Lands*

- VM 40. Applicants shall consult with the General Land Office ("GLO") of Illinois to coordinate an Easement Agreement for crossing State-owned parks to reach Transaction-related construction areas.

6.2.4.6 *Utility Corridors*

- VM 41. Applicants shall make reasonable efforts to identify all utilities that are reasonably expected to be materially affected by the proposed construction within their existing ROW or that cross their existing ROW. Applicants shall notify the owner of each such utility identified prior to commencing Transaction-related construction activities and coordinate with the owner to minimize damage to utilities. Applicants shall also consult with utility owners to design the rail line so that utilities are reasonably protected during Transaction-related construction activities.
- VM 42. Applicants shall use the services of a qualified pipeline engineering firm that is familiar with the project area to assist in the identification of the various pipeline crossings and to assist in the design of crossings as necessary for Transaction-related construction activities.

6.2.5 *Air Quality*

- VM 43. Applicants shall accelerate implementation of EPA locomotive emissions reduction efforts⁷ by installing idling control systems on their switching locomotives assigned to the Chicago area and shall accelerate replacement of switching locomotives that are excluded from EPA emission standards and are now in service at Chicago-area yards that will experience increased yard activity as a result of the Transaction with locomotives that are compliant with EPA Tier 0 or more stringent emission standards.
- VM 44. Applicants, to the extent reasonably practicable, shall adopt efficient fuel saving practices that may include a range of operating practices that will help reduce locomotive emissions, such as shutting down locomotives when not in use and when temperatures are above 40 degrees.
- VM 45. To minimize fugitive dust emissions created during Transaction-related construction activities, Applicants shall implement appropriate fugitive dust suppression controls, such as spraying water or other approved measures. Applicants shall also regularly operate water trucks on haul roads to reduce dust.

⁷ EPA has issued rules designed to reduce locomotive emissions over time. For a discussion of the EPA locomotive emission reduction efforts see Section 4.9, above.

- VM 46. Applicants shall work with their contractors to make sure that construction equipment is properly maintained and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air emissions.

6.2.6 Noise and Vibration

- VM 47. Applicants shall work with affected communities that have sensitive receptors that would experience an increase of at least 5 dBA [A-weighted decibel] and reach 70 dBA⁸ to mitigate train noise to levels as low as 70 dBA by such means as are agreed to by an affected community and Applicants. In the absence of such an agreement, Applicants shall implement effective mitigation that could include such measures as (1) constructing noise control devices such as noise barriers, (2) installing vegetation or berming, or (3) installing, or providing funding for installation of, enhanced warning devices in order to provide the level of warning necessary to allow the community to request a waiver from Federal Railroad Administration (FRA) of the requirement to sound the horn and achieve quiet zone requirements.
- VM 48. Applicants shall consult with affected communities and work with their construction contractors to minimize, to the extent reasonably practicable, construction-related noise disturbances near any residential areas.
- VM 49. Applicants shall work with their construction contractors to maintain Transaction-related construction and maintenance vehicles in good working order with properly functioning mufflers to control noise.
- VM 50. In the Transaction-related construction of extended sidings, double-track, or new or upgraded connections, Applicants shall, where reasonably practicable, and consistent with safe and efficient operating practices, use continuously welded rail in order to reduce wheel/rail wayside noise.
- VM 51. In addition to the development of other noise mitigation measures, Applicants shall consider lubricating curves where doing so would both be consistent with safe and efficient operating practices and significantly reduce noise for residential or other noise sensitive receptors. Applicants shall also continue to employ safe and efficient operating procedures that, in lieu of, or as complement to, other noise mitigation measures can have the collateral benefit of effectively reducing noise from train operations. Such procedures include:
- inspecting rail car wheels to maintain wheels in good working order and minimize the development of wheel flats;
 - inspecting new and existing rail for rough surfaces and, where appropriate, grinding these surfaces to provide a smooth rail surface during operations;
 - regularly maintaining locomotives, and keeping mufflers in good working order; and
 - removing or consolidating switches determined by Applicants to no longer be needed.
- VM 52. To minimize noise and vibration, Applicants shall install and maintain rail and rail beds according to AREMA standards.
- VM 53. Applicants shall comply with FRA regulations establishing decibel limits for train operations.

⁸ For a discussion of noise levels and noise related issues see Sections 3.10 and 4.10, above.

6.2.7 Water Resources

- VM 54. In the case where there is a potential for a railroad drainage ditch to influence wetland hydrology, Applicants shall construct low permeability clay berms (wetland berms adjacent to the drainage channels that would be proximal to the isolated wetlands). These berms would minimize the impact to surface water drainage from the proposed drainage ditch.
- VM 55. Applicants shall maintain drainage ditches as permanent vegetated swales to provide storm water retention and treatment. Removal of accumulated sediments shall be conducted only as necessary to maintain storm water retention capacity and function.
- VM 56. To minimize sedimentation into streams and waterways during construction, Applicants shall use best management practices, such as silt fences and straw bale dikes, to minimize soil erosion, sedimentation, runoff, and surface instability during project-related construction activities. Applicants shall seek to disturb the smallest area possible around any streams and shall conduct reseeded efforts to ensure proper revegetation of disturbed areas as soon as reasonably practicable following Transaction-related construction activities.
- VM 57. In order to control erosion, Applicants shall establish staging and lay down areas for Transaction-related construction material and equipment at least 300 feet from jurisdictional waters of the United States and in areas that are not environmentally sensitive. Applicants shall not clear any vegetation between the staging area and the waterway or wetlands. To the extent reasonably practicable, areas with non-jurisdictional isolated waters will not be used for staging and lay down and will only be impacted when necessary for construction. When Transaction-related construction activities, such as culvert and bridgework, require work in streambeds, Applicants shall conduct these activities, to the extent reasonably practicable, during low-flow conditions.
- VM 58. During Transaction-related construction activities, Applicants shall require all contractors to conduct daily inspections of all equipment for any fuel, lube oil, hydraulic, or antifreeze leaks. If leaks are found, Applicants shall require the contractor to immediately remove the equipment from service and repair or replace it.
- VM 59. Applicants shall design all Transaction-related drainage crossing structures to pass a 100-year storm event. Applicants shall construct the new sidings, double-track, and connections in such a way as to maintain current drainage patterns to the extent reasonably practicable and not result in new drainage of wetlands.
- VM 60. Applicants shall employ best management practices to control turbidity and disturbance to bottom sediments of surface waters during Transaction-related construction.
- VM 61. Applicants shall implement their current noxious weed control program during construction and operation of Transaction-related sidings, double-track, and connections. All herbicides used by Applicants shall be approved by the U.S. EPA.
- VM 62. Applicants shall ensure that any herbicides used in ROW maintenance to control vegetation are approved by the U.S. EPA and are applied by licensed individuals who shall limit application to the extent necessary for rail operations. Herbicides shall be applied so as to prevent or minimize drift off of the ROW onto adjacent areas.
- VM 63. During construction, Applicants shall prohibit Transaction-related construction vehicles from driving in or crossing streams at other than established crossing points.

- VM 64. Applicants shall, to the extent reasonably practicable, ensure that any fill placed below the ordinary high water line of wetlands and streams is appropriate material selected to minimize impacts to the wetlands and streams. All stream crossing points shall be returned to their pre-construction contours to the extent reasonably practicable and the crossing banks will be reseeded or replanted with native species immediately following project-related construction.
- VM 65. Applicants shall obtain a National Pollutant Discharge Elimination System (“NPDES”) storm water discharge permit from U.S. EPA or appropriate State agencies for Transaction-related construction activities.
- VM 66. For impacts to non-jurisdictional isolated wetlands habitat along the new line, Applicants shall survey the route to determine if the Hines Emerald Dragonfly is present along the ROW.
- VM 67. Upon consultation with U.S. Fish and Wildlife Service, should the Hines Emerald Dragonfly be observed on the site of Transaction-related construction activities, Applicants shall implement appropriate measures prior to and during construction to reduce or eliminate impacts on the Hines Emerald Dragonfly.
- VM 68. Prior to initiating Transaction-related construction activities, Applicants shall consult with the local offices of the Natural Resource Conservation Service (“NRCS”) to develop an appropriate plan for restoration and re-vegetation of the disturbed areas (including appropriate seed mix specifications).
- VM 69. During construction activity, Applicants shall take reasonable steps to ensure contractors use fill material appropriate for the project area.
- VM 70. Applicants shall, to the extent reasonably practicable, revegetate the bottom and sides of the drainage ditches using natural recruitment from the native seed sources in the stockpiled topsoil.

6.2.8 Additional Applicants’ Proposed Mitigation

In addition to the 70 mitigation measures outlined in their June 26, 2008, filing, above, the Applicants proposed six voluntary mitigation measures in several of their previous Board filings, as well as in letters to congressmen and in meetings with SEA. The six additional proposed voluntary mitigation measures follow:

- VM 71. Applicants shall abide by the commitment made to Amtrak in a letter dated March 10, 2008 concerning Amtrak’s use of the St. Charles Air Line (Air Line). In general, the commitment allows Amtrak to remain indefinitely on the Air Line after CN’s trains are re-routed from the Air Line onto the EJ&E rail line should the Proposed Action be approved and implemented, thereby preserving Amtrak’s access to Chicago’s Union Station and Amtrak’s ability to continue to provide service to and from points such as Champaign and Carbondale, Illinois. Applicants shall abide by the commitment to capping the cost to Amtrak for maintaining the Air Line at the current level, indexed for inflation (Applicants 2008p).
- VM 72. Applicants shall operate the key interlockings at West Chicago and Barrington, Illinois, according to the current agreements under which EJ&E operates. Those agreements require EJ&E to give priority to passenger trains over either UP or EJ&E freight trains (Applicants 2008k).
- VM 73. Applicants shall work with Metra to explore all options for service on the proposed STAR Line, including use of the EJ&E rail line. The timing and implementation of

- STAR Line service remain subject to numerous variables, including securing government funding, but the Applicants are committed to continuing discussions with Metra on the STAR Line (Applicants 2008j).
- VM 74. Applicants shall install control signals (“A” block or absolute stop signals) at the ends of sidings, double track sections, crossovers, and other control switch locations (Applicants 2008a).
- VM 75. Applicants shall operate under U.S. Operating Rule No. 526 (Public Crossings), which provides that a public crossing must not be blocked longer than 10 minutes unless it cannot be avoided and that, if possible, rail cars, engines, and rail equipment may not stand closer than 200 feet from a highway/rail at-grade crossing when there is an adjacent track (Applicants 2008a).
- VM 76. During and after construction, Applicants shall maintain the pedestrian tunnel from the Metra Park-n-Ride lot to the Metra train station on the east side of the Chicago Subdivision rail line at Matteson (Applicants 2008l).

6.3 SEA’s Preliminary Environmental Mitigation Measures

SEA’s recommended preliminary environmental mitigation addresses potentially substantial effects from the Proposed Action, not addressed by the Applicants’ voluntary mitigation, presented above. However, SEA notes that even with mitigation the Proposed Action would still have adverse environmental effects that could not be fully mitigated. For example, horn noise from train operations could not be fully mitigated without compromising safety. Even with mitigation, there may be vehicle delays at highway/rail at-grade crossings, visual effects on forest preserves, and affects on wetlands and riparian habitat. For each of the environmental resource areas analyzed in the Draft EIS and discussed below, SEA concluded that if the impacts of the Proposed Action would be negligible, no mitigation would be proposed. SEA presents the mitigation measures, below, identified with a number and organized by the section headings in Chapter 4. SEA groups all the recommended mitigation for construction-related effects in Section 6.3.14, below.

6.3.1 Rail Operations

The term “rail operations” refers to the manner and methods by which a railroad uses its trackage to move freight from its origins to its destinations, delivers and picks up freight cars from individual customers, sorts trains at classification yards, and interacts with other railroads’ operations. For the reasons discussed in Section 4.1, above, SEA concluded that there would be no substantial adverse impacts in the area of rail operations attributable to the Proposed Action. Therefore, SEA does not propose mitigation at this time.

6.3.2 Rail Safety

Safety is of paramount importance to the Board. As discussed in Section 4.2, above, SEA analyzed rail operations and safety issues, including freight rail safety, vehicle safety, passenger rail safety, hazardous materials safety, and pedestrian safety, associated with the Proposed Action for all rail line segments (EJ&E and CN) that would experience changes in traffic volume, as described in the Applicants’ operating plan. In addition to the Applicants’ voluntary mitigation (see Section 6.2.1, Safety, above) SEA recommends the mitigation outlined in this section to mitigate for effects due to the Proposed Action.

6.3.2.1 Safety Integration Plan

Pursuant to the Board's regulations at 49 CFR 1106, the Applicants prepared a Safety Integration Plan (SIP) that specifically addresses the process the Applicants propose to safely integrate the two rail systems. The Applicants filed the SIP with the Board on December 28, 2007, and submitted the SIP to the Federal Railroad Administration (FRA) for review (Applicants 2007b). On June 27, 2008, the Applicants submitted a revised version of their SIP addressing certain points raised by FRA. SEA has also independently reviewed both versions of the SIP. To facilitate public review of this important issue, this Draft EIS provides the complete revised SIP in Appendix D. The Board encourages the public to review the revised SIP carefully and to comment on its sufficiency. Like all Draft EIS comments, any comments on the SIP must be submitted to SEA before the end of the Draft EIS comment period. SEA will fully consider the public comments in preparing the Final EIS. Consistent with the Board's practice, if the Proposed Action is approved, the Board would impose a condition requiring the Applicants to comply with the terms of the SIP as follows:

- 1) Applicants shall comply with the Final Safety Integration Plan, prepared pursuant to 49 CFR Part 1106, which may be modified and updated as necessary to respond to evolving conditions.
- 2) Applicants shall continue to coordinate with the FRA in implementing the approved Final Safety Integration Plan, including any amendments thereto. The ongoing safety integration process shall continue until the FRA notifies the Board that the integration of Applicants' operations has been safely completed.

6.3.2.2 Freight Rail Safety

As discussed in Section 4.2.1, SEA determined that under the Proposed Action, the potential for accidents involving railroad equipment on the CN rail lines would decrease and the potential for accidents on the EJ&E rail line would increase, although the predicted number of additional accidents would be small, less than one additional accident per year. In these circumstances, SEA recommends the following mitigation to address freight rail safety:

- 3) Applicants shall adhere to all applicable Federal Occupational Safety and Health Administration (OSHA), FRA, and state construction and operational safety regulations to minimize the potential for accidents and incidents on the EJ&E rail line.

6.3.2.3 Vehicle Safety

SEA's evaluation of vehicle safety is described in Section 4.2.2. Under the Proposed Action, SEA found that overall predicted highway/rail at-grade crossing accidents would decrease. However, SEA identified three highway/rail at-grade crossings on the EJ&E rail line that would see a substantial increase in predicted accidents, and three additional highway/rail at-grade crossings on the EJ&E rail line where the exposure of highway vehicles to trains would see a substantial increase under the Proposed Action, potentially warranting additional mitigation.

SEA recommends the following general mitigation for vehicle safety:

- 4) Applicants shall coordinate with the appropriate state departments of transportation, counties, and affected communities along the EJ&E rail line to develop a program for installing temporary notification signs or message boards, where warranted, in railroad ROW at highway/rail at-grade crossings, clearly advising motorists of the impending increase in train traffic on affected rail line segments. The format and lettering of these signs shall comply with the Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (FHWA 2007b) and shall be in place no less than 30 days before and six months after the implementation of rail operations under the

Proposed Action. In addition, the Applicants shall conduct a media campaign throughout the counties and communities surrounding the EJ&E rail line advising the public of increased operations along the EJ&E rail line. The campaign shall include the use of different media (radio, television, newspaper, Internet, and public meetings) and may include public service announcements, advertisements, or legal notices. Applicants shall distribute all information in both English and Spanish, where appropriate. Applicants shall report to the Board that they have complied with this condition (see Section 6.5, Monitoring and Enforcement, below).

- 5) Should the Applicants choose to operate trains in lengths that might block one or more at-grade crossings, and if these trains are required to stop for any reason, Applicants shall not block a crossing for more than 10 minutes (U.S. Operating Rules No. 526 [Public Crossings]). If the blockage is likely to exceed this time frame, then the train shall then be promptly cut to clear the blocked crossing or crossings.

High Accident Frequencies

As discussed in Chapter 4, should the Proposed Action be approved and implemented, three highway/rail at-grade crossings would see an increase in predicted accidents that exceeds the threshold used by SEA in prior proceedings as a measure of high incidence of predicted accidents (greater than one every seven years). The three highway/rail at-grade crossings include:

- Woodruff Road, Joliet, Illinois, MP 0.82, Segment EJE-8, USDOT #260597M
- Lake Street, Griffith, Indiana, MP 36.77, Segment EJE-4, USDOT #260661J
- Miller Street, Griffith, Indiana, MP 36.89, Segment EJE-4, USDOT #260662R

Lake Street and Miller Street are located adjacent to each other in Griffith, Indiana, and therefore improvements at one crossing could affect the second crossing. For that reason SEA proposes mitigation specific to these two highway/rail at-grade crossings. Each of these options includes a requirement that the Applicants work cooperatively with the local agencies having jurisdiction over the road, state departments of transportation, and the community of Griffith, Indiana to determine reasonable mitigation to minimize the potential safety effects of Proposed Action at each location. At a minimum, SEA intends to propose mitigation for Lake Street and Miller Street that would include the following:

- 6) Within 90 days of the implementation of rail operations under the Proposed Action, Applicants shall meet with the lead agency having jurisdiction over the roadway, Indiana Department of Transportation, the City of Griffith, and other appropriate local agencies and shall participate in an on-site diagnostic review of the Lake Street and Miller Street highway/rail at-grade crossings. The purpose of the diagnostic review will be to examine the adequacy of the existing warning devices, to ascertain if there are particular roadway uses or localized issues that would reduce the effectiveness of these warning devices, to prescribe appropriate remedies to improve safety for highway vehicles, and to establish the timeframe and funding for identified improvements.
- 7) Applicants shall fund a community-based corridor study in Griffith to evaluate the alternatives for Lake Street and Miller Street, up to and including active advance warning devices or closure of an at-grade crossing.

SEA believes that the most effective mitigation for the Lake Street and Miller Street high accident frequency areas would be for the parties to reach an agreement that might include improving the warning devices at one street, and closing the other. This is not mitigation that the Board could impose. Should an agreement be reached, SEA would not recommend mitigation measures 6 and 7.

As noted above, the third highway/rail at-grade crossing SEA identified as having a high predicted accident rate is Woodruff Road in Joliet, Illinois. Woodruff Road is also one of the crossings that SEA concluded would likely have substantial vehicle delay from the Proposed Action, thereby warranting mitigation. In addition, the Applicants offered voluntary mitigation specific to Woodruff Road in Joliet (see VM 17 in Section 6.2.3.1, above). Because mitigation tied to delay would also impact safety, SEA is presenting its proposed mitigation for Woodruff Road in Section 6.3.3.1, Regional and Local Highway Systems, below.

Vehicle Exposures

Should the Proposed Action be approved and implemented, three highway/rail at-grade crossings would see a substantial increase in the number of highway vehicles that are exposed to freight trains (called exposure, or the number of trains per day multiplied by the number of vehicles per day). At these locations, exposure would exceed 1 million, which is a threshold identified by the Federal Highway Administration (FHWA) at which construction of a grade separation should be considered. SEA found that exposure would exceed 1 million at the following locations:

- Ogden Avenue, US 34, Aurora, Illinois, MP 19.05, Segment EJE-10, USDOT #260560X
- Montgomery Road, Aurora, Illinois, MP 18.18, Segment EJE-10, USDOT #260562L
- Lincoln Highway/US 30, Lynwood, Illinois, MP 30.69, Segment EJE-5, USDOT #260651D

From a vehicle delay standpoint, SEA also identified these same three highway/rail at-grade crossings as crossings that would likely experience a substantial increase in vehicle delay as a result of the Proposed Action. Because the mitigation for vehicle delay is directly related to vehicle safety and would include consideration of many of the same mitigation options, SEA is presenting its proposed mitigation for Ogden Avenue, Montgomery Road and Lincoln Highway in Section 6.3.3.1, Regional and Local Highway Systems, below.

6.3.2.4 *Passenger Rail Safety*

As discussed in Section 4.2.3, SEA did not identify any substantial adverse effects related to passenger rail safety. Therefore, SEA does not propose mitigation at this time, beyond what is currently proposed by the Applicants in Section 6.2.1, Safety, and Section 6.2.8, Additional Voluntary Mitigation Measures, and by SEA in Section 6.3.2.2, Freight Rail Safety, above.

6.3.2.5 *Quiet Zones*

SEA's evaluation of Quiet Zones is discussed in Section 4.2.4. The Applicants have agreed to provide mitigation for Quiet Zones under VM 2 (see Section 6.2.1.1, Grade Crossings). In addition, SEA believes that mitigation is warranted to retain the established Quiet Zone in Barrington, Illinois as a Quiet Zone should the Proposed Action be approved and implemented. As mitigation, SEA recommends the following condition:

- 8) Applicants shall fund the improvements necessary to allow Barrington to maintain its Quiet Zone designation should the addition of CN train traffic cause it to fall out of compliance with FRA regulations. Applicants shall work with the Village of Barrington to determine which improvements would be necessary for the Quiet Zone to maintain FRA compliance.

6.3.2.6 *Hazardous Materials Transportation Safety*

As described in Section 4.2.5, SEA found that under the Proposed Action the likelihood of release of hazardous materials would increase along the EJ&E rail line and decrease along CN rail lines. The

Applicants proposed voluntary mitigation measures for hazardous materials transport (see Section 6.2.2 Hazardous Materials Transportation, above). In addition to the voluntary mitigation proposed by the Applicants, SEA proposes the following conditions:

- 9) Applicants shall conduct Transportation Community Awareness and Emergency Response Program (TRANSCAER) workshops (training for communities through which dangerous goods are transported) in those communities along the EJ&E rail line that request this training. Applicants shall participate in the workshops with community leaders and/or emergency response personnel to assist with training and testing for emergency preparedness. Applicants shall conduct workshops in English and Spanish, upon request. Applicants shall complete the workshops within 3 years from the date the Applicants initiate operational changes associated with the Proposed Action.
- 10) Applicants shall assist in the hazardous materials training at the Transportation Technical Center, Inc., (TTCI) in Pueblo, Colorado of emergency responders for affected communities that express an interest in such training. Applicants shall support through funding or other means the training of one representative from each of the communities located along the EJ&E rail line segments where the transportation of hazardous materials would increase. Applicants shall complete the training within 3 years from the date that the Applicants initiate operational changes associated with the Proposed Action. As an alternative mitigation option, Applicants shall fund and provide for similar training within the Chicago metropolitan area.
- 11) Applicants shall develop internal emergency response plans to allow for agencies and individuals to be notified in an emergency, and to locate and inventory the appropriate emergency equipment. Applicants shall provide the emergency response plans to the relevant state and local authorities within 60 days of the effective date of the Board's final decision.
- 12) Prior to increasing rail traffic as a result of the Proposed Action, Applicants shall provide dedicated toll-free telephone numbers to the emergency response organizations or coordinating bodies responsible for each community located along the EJ&E rail line. These telephone numbers shall provide access to personnel at the Applicants' dispatch centers 24 hours per day, seven days a week, enabling local emergency response personnel to obtain and provide information quickly regarding the transport of hazardous materials on a given train and appropriate emergency response procedures should a train accident or hazardous materials release occur. Applicants shall make a Spanish-language option available in the toll-free number.

The Applicants have proposed additional voluntary mitigation (VM 8-VM 16) for the transportation of hazardous materials. These are similar to measures that SEA would otherwise have proposed. SEA believes that some of these voluntary mitigation measures could be improved by adding time frames, and specifically requests comment on reasonable time frames that could be added to the Applicants' voluntary mitigation measures.

SEA notes that the Pipeline and Hazardous Materials Safety Administration (PHMSA), in coordination with FRA and the Transportation Security Administration (TSA), has recently (effective June 1, 2008) revised the requirements for hazardous materials regulations applicable to the safe and secure transportation of hazardous materials transported in commerce by rail. These require rail carriers to compile annual data on certain shipments of explosive, toxic by inhalation (TIH), and radioactive materials, use the data to analyze safety and security risks along rail routes where those materials are transported, assess alternative routing options, and make routing decisions based on those assessments. The new requirements also clarify rail carriers' responsibility to address in their security plan issues related to en route storage and delays in transit. In addition, a new requirement for

rail carriers to inspect placarded hazardous materials rail cars for signs of tampering or suspicious items has been proposed, including improvised explosive devices (FR 2008a). As an additional condition, SEA recommends the following mitigation related to hazardous materials transportation:

- 13) Applicants shall comply with the PHMSA, FRA, and TSA requirements for hazardous materials regulations at 49 CFR 172 and 174 applicable to the safe and secure transportation of hazardous materials.

6.3.2.7 Pedestrian and Bicycle Safety

SEA's analysis of pedestrian and bicycle safety is located in Section 4.2.6. SEA found that the Proposed Action would potentially increase the risk at pedestrian and recreational trail at-grade crossings because of the increased number of trains. SEA proposes the following mitigation measures:

- 14) Within 6 months of the effective date of the Board's final decision, Applicants shall initiate an on-site diagnostic review of the locations of designated pedestrian and recreational trail at-grade crossings along the EJ&E rail line that would see an increase in train traffic under the Proposed Action. The Applicants shall coordinate the review with local agencies and trail groups in communities with existing pedestrian and recreational trail crossings. The purpose of the diagnostic review would be to examine the adequacy of the existing warning devices, to ascertain if there are particular trail uses or localized issues that would reduce the effectiveness of these warning devices, to prescribe appropriate remedies to improve safety for pedestrian and recreational trail users, and to establish the timeframe and funding for identified improvements.
- 15) To supplement the Applicants' voluntary mitigation VM 23 (see Section 6.2.3.2, above), Applicants shall fund Operation Lifesaver programs in communities, schools, and other organizations located along the EJ&E rail line for up to 3 years after the effective date of the Board's final decision. Applicants shall provide Operation Lifesaver programs in Spanish, upon request.
- 16) Within 60 days of the effective date of the Board's final decision, Applicants shall identify highway/rail at-grade crossings within one-quarter mile of schools and work with the state departments of transportation, Illinois Commerce Commission (ICC), and local communities to determine those crossings where additional pedestrian warning devices are warranted. Highway/rail at-grade crossings of concern include sidewalks or walkways where students are likely to cross on their journey to and from school.

6.3.3 Transportation Systems

During the scoping period and throughout preparation of the Draft EIS, SEA received many public comments asking the Board to require the Applicants to fully fund numerous grade-separated crossings throughout the Study Area. SEA agrees that many communities along the EJ&E rail line would benefit from more grade separations. However, many of these communities already face traffic congestion at highway/rail at-grade crossings on the same roadways that would be potentially affected by the Proposed Action. In addition, traffic congestion is not caused solely by the EJ&E trains but also by the presence of multiple-rail freight lines, some of which are also used by commuter trains. It would be inappropriate to hold the Applicants responsible for the presence of the many existing at-grade rail crossings in the communities along the EJ&E rail line, and the rarity (and in some communities, the absence) of grade-separated crossings. Moreover, railroads historically have not paid for more than a small share (5 to 10 percent) of grade separations because grade separations primarily benefit the community and not the railroad.

SEA considers many of these traffic problems as “pre-existing” conditions, and beyond the Board’s authority to mitigate here. But, as explained in Section 4.3.1 and above, the Proposed Action would, in some cases, exacerbate the existing problems, and at the 15 highway/rail at-grade crossings listed in Table 6.3-1, below, would cause substantial effects. Therefore, SEA believes that mitigation is both appropriate and warranted at the 15 at-grade crossings. Because the vehicle congestion problems are a combination of existing conditions and potential effects resulting from the Proposed Action, however, SEA believes the remedies (that is, mitigation) appropriately should be funded by a combination of entities, and not by the Applicants alone.

Table 6.3-1. Highway/Rail At-Grade Crossings In The Study Area That Require Mitigation Due To Effects Under The Proposed Action

At-Grade Crossing Location	Milepost	Segment ^a	U.S. DOT Identification Number	Criteria for Inclusion ^b
Allanson Road, Mundelein, Illinois	38.65	Segment CN-29	USDOT# 689701U	> 40 hrs delay/day
Old McHenry Road, Hawthorn Woods, Illinois	55.45	Segment EJE-14C	USDOT# 260503J	> 40 hrs delay/day
Ela Road, Lake Zurich, Illinois	52.33	Segment EJE-14C	USDOT# 260510U	Queue blocks major thoroughfares
Hough Street (Illinois Route 59 and 63), Barrington, Illinois	49.80	Segment EJE-14C	USDOT# 260515D	Queue blocks major thoroughfares
Liberty Street, Aurora, Illinois	20.63	Segment EJE-10A	USDOT# 260558W	> 40 hrs delay/day
Ogden Avenue (US 34), Aurora, Illinois	19.05	Segment EJE-10A	USDOT# 260560X	Exposure >40 hrs delay/day
Montgomery Road/83rd Street, Aurora, Illinois	18.18	Segment EJE-10A	USDOT# 260562L	Exposure; > 40 hrs delay/day
135 th Street, Plainfield, Illinois	11.43	Segment EJE-10E	USDOT# 260575M	Queue blocks major thoroughfares
Woodruff Road, Joliet, Illinois	0.82	Segment EJE-8A	USDOT# 260597M	High incidence of predicted accidents; > 40 hrs delay/day; At-grade crossing Level of Service (LOS) reduction
Washington Street, Joliet, Illinois	0.95	Segment EJE-7A	USDOT# 260601A	> 40 hrs delay/day; At-grade crossing Level of Service (LOS) reduction
Cicero Avenue, Matteson, Illinois	20.06	Segment EJE-7E	USDOT# 260632Y	> 40 hrs delay/day
Western Avenue, Park Forest, Illinois	23.12	Segment EJE-6	USDOT# 260638P	> 40 hrs delay/day
Chicago Road, Chicago Heights, Illinois	24.91	Segment EJE-6	USDOT# 260640R	> 40 hrs delay/day
Lincoln Highway (US 30), Lynwood, Illinois	30.69	Segment EJE-5A	USDOT# 260651D	Exposure; > 40 hrs delay/day; Queue blocks major thoroughfares
Broad Street, Griffith, Indiana	36.09	Segment EJE-4	USDOT# 283201W	> 40 hrs delay/day

Notes:

^a See Figure 3.1-1 in Chapter 3 for locations of the EJ&E and CN rail segments.

- ^b >40 hrs delay/day = There is excess vehicle delay (more than 40 hours/day);
 Queue blocks major thoroughfares = The 2015 queue blocks the crossing of major thoroughfares;
 At-grade crossing Level of Service (LOS) reduction = A reduction in LOS from better than LOS C to worse than D);
 Exposure = Exposure would exceed the threshold of 1 million;
 High incidence of predicted accidents = The increase in predicted accidents exceeds the threshold.

Below, SEA has set forth a menu of mitigation options, ranging from the typical rail contribution toward grade-separated crossings (5 to 10 percent) to grade-separated crossings funded at a higher rate (i.e. 25 to 50 percent) by the Applicants. As an alternative to Board-imposed mitigation, SEA hopes that state agencies, or agencies with a regional perspective, would assist potentially affected communities and the Applicants in developing shared mitigation to ensure that adverse effects of the Proposed Action would be mitigated to the fullest extent possible in the grade crossing locations discussed above in Table 6.3-1.

6.3.3.1 Regional and Local Highway Systems

SEA identified 15 highway/at-grade crossings as “Potentially Substantially Affected” by the Proposed Action in Chapter 4, Section 4.3.1.3, meaning the at-grade crossings would likely experience a serious impact on the overall mobility of the respective communities under the Proposed Action due to a substantial increase in queue length, vehicle delay, and a decrease in highway/rail at-grade crossing level of service (LOS). The Applicants proposed a number of mitigation measures for grade crossing safety throughout the Study Area (see VM 1 to 7 and VM 18), and have included voluntary mitigation for two of these 15 at-grade crossings, Woodruff Road and Washington Street in Joliet, Illinois (see VM 17 in Section 6.2.3.1, Grade Crossing Delay); Three of the 15 at-grade crossings—Ogden Avenue in Aurora, Illinois; Montgomery Road/83rd Street in Aurora, Illinois; and Lincoln Highway/US 30 in Lynwood, Illinois—show an increase in exposure under the Proposed Action (see Section 6.3.2.3, above).

SEA identified vehicle delay effects, vehicle safety effects, or both for 15 highway/rail at-grade crossings listed in Table 6.3-1, above. SEA is considering a range of mitigation options for those 15 crossings. SEA has identified 8 possible strategies, listed below, to address vehicle delay and vehicle safety effects at highway/rail at-grade crossings. SEA specifically invites the public to comment on the mitigation options it is considering in this section. In the Final EIS, SEA will identify a specific mitigation option for each of the affected highway/rail at-grade crossings not addressed in Applicants/community negotiated agreements. SEA encourages mutually acceptable negotiated agreements between the Applicants and affected communities that would substitute for any recommended site specific mitigation. In the final EIS, SEA will identify specific mitigation for each of the 15 highway/rail at-grade crossings if no negotiated agreements have been reached by then.

- **Voluntary Mitigation.** No mitigation beyond that which Applicants have volunteered.
- **Close the At-Grade Crossing.** SEA is considering a mitigation condition that would require the Applicants to work with the appropriate state and local agencies and municipalities to evaluate the possibility that one or more roadways listed in Table 6.3-1 could be closed at the point where it crosses the EJ&E rail line, in order to eliminate the at-grade crossing.
- **Traffic Management Strategy.** To mitigate vehicle delay and vehicle safety at highway/rail at-grade crossings, SEA is considering a mitigation condition that would require the Applicants to work with the appropriate state and local agencies and municipalities to cooperatively develop and implement, including funding provisions, a Traffic Management Strategy (TMS) related to both rail operations and highway traffic management. The TMS would emphasize reduction of vehicle delays during peak vehicle traffic hours.

- **Roadway Modifications.** SEA is considering a mitigation condition that would require the Applicants to work with appropriate state and local agencies to identify and implement, including funding provisions, improvements or modifications to roadways that would reduce vehicle delays by improving roadway capacity. Modifications could include storage lanes, traffic signal revisions to manage queuing, increase in roadway capacity over the crossing by construction of additional lanes, revisions to adjacent roadway intersections to reduce secondary congestion, and improvements in roadway speeds.
- **Improve Or Install Active Grade-Crossing Warning Devices.** SEA is considering a mitigation condition that would require the Applicants to work with the appropriate state and local agencies and municipalities to cooperatively survey highway/rail at-grade crossings (that is, a diagnostic procedure) for a determination of the adequacy of existing grade-crossing signal systems, signage, roadway striping, traffic signaling inter-ties, and curbs and medians. Applicants would then be required to work with the agencies and municipalities to identify and implement, including funding provisions, changes to warning devices, signage, striping, inter-ties, curbs and medians, and traffic signal interconnections and timing, as determined by the diagnostic procedure. In addition, this mitigation condition would require the Applicants to work with the agencies and municipalities to identify and implement, including funding provisions, mitigations for at-grade crossings where local conditions and roadway, signal, and warning device configuration may trap vehicles between warning device gates on or near the highway/rail at-grade crossing.
- **Grade-Separate the At-Grade Crossing.** SEA is considering a mitigation condition that would require the Applicants to work with the appropriate state and local agencies to develop and implement a plan, including the funding provisions, to grade-separate the highway/rail crossing by elevating or depressing the roadway profile at the point where it crosses the EJ&E rail line, or raising or lowering the rail profile in addition to adjusting the roadway profile, as appropriate. As part of the condition SEA would require that the Applicants participate in the funding of the improvements and is considering a range of possible funding limits.
- **Modify Train Operation Practices.** SEA is considering a mitigation condition that would require the Applicants to develop and submit to SEA a train operations proposal that would mitigate vehicle delay and vehicle safety effects and include the Applicants' expected performance metrics. The Applicants' proposed modifications might include train operation curfews during hours of peak roadway vehicle traffic, maximum train lengths, increases in train speeds to mitigate vehicle delays, decreases in train speeds to mitigate vehicle safety effects, and arrangements of trackage and signaling systems (or other method of operation) to ensure that trains can predictably and reliably perform movement across roadway grade crossings in one continuous movement at a quantifiable and reportable speed. SEA is considering that this mitigation condition would include a requirement for regular reporting by the Applicants' of their success in meeting the proposed performance metrics.
- **Traffic Impact Mitigation Fund.** SEA is considering a mitigation condition that would require the Applicants to work with the appropriate state agencies to establish and fund a Traffic Impact Mitigation Fund. This would be a one-time contribution by the Applicants to a fund that would be administered by local agencies to help affected communities mitigate the delay and safety impacts of the Proposed Action. SEA is considering a range of funding commitments.

SEA recommends the following general mitigation in order to minimize vehicle delay at all highway/rail at-grade crossings in the entire Study Area (that is, not just the crossings identified in Table 6.3-1):

- 17) Applicants design for wayside signaling systems shall be configured and implemented to minimize the length of time that trains or maintenance-of-way vehicles or activities occupy at-grade crossings or unnecessarily activate grade-crossing warning devices.

6.3.3.2 Emergency Response

SEA's analysis, which is described in Section 4.3.3, identified 11 emergency service providers listed in Table 6.3-2, below, that would be potentially substantially affected under the Proposed Action.

Table 6.3-2. Emergency Service Providers Potentially Substantially Affected Under the Proposed Action	
Community	Facility
Mundelein, Illinois	Countryside Fire Protection District - Station No. 1
Lake Zurich, Illinois	Lake Zurich Rural Fire Protection District - Station No. 3
Barrington, Illinois	Barrington Fire Department - Station No. 1
Bartlett, Illinois	Bartlett Fire Protection District - Future Station No. 3
Plainfield, Illinois	Plainfield Fire Protection District - Station No. 3
Joliet, Illinois	Joliet Fire Department - Station No. 8
Olympia Fields, Illinois	Saint James Hospital and Health Centers - Olympia Fields
Chicago Heights, Illinois	Saint James Hospital and Health Centers - Chicago Heights
Schererville, Indiana	Schererville Fire Department Headquarters
Griffith, Indiana	Griffith Volunteer Fire Dept. Headquarters/Station No. 1
Griffith, Indiana	Griffith Volunteer Fire Dept. - Station No. 2

SEA identified impacts to 11 emergency service providers listed in Table 6.3-2, above. The Applicants have included a number of voluntary mitigation measures for emergency response services (see VM 17, VM 18, and VM 21 through VM 23). SEA is considering a range of mitigation options and has identified 7 possible strategies, listed below, to address potential delay to emergency response vehicles at highway/rail at-grade crossings. SEA specifically invites the public to comment on the mitigation options it is considering in this section. The Applicants have proposed additional voluntary mitigation (VM 21 through VM 23) addressing emergency vehicle delays. These are similar to measures that SEA would otherwise have proposed. SEA believes that some of these voluntary mitigation measures could be improved by adding time frames, and specifically requests comment on reasonable time frames that could be added to the Applicants' voluntary mitigation measures. In the Final EIS, SEA will identify a specific mitigation option for each of the affected emergency service providers not addressed in Applicants/community negotiated agreements. SEA recognizes that mitigation that addresses vehicle delay in Section 6.3.3.1, above, could also be

effective in reducing emergency vehicle delay. As discussed above in Section 6.1.2, SEA encourages mutually acceptable negotiated agreements between the Applicants and affected communities that would substitute for any recommended site specific mitigation. In the final EIS, SEA will identify mitigation for emergency response services if no negotiated agreements have been reached by then.

- **Voluntary Mitigation.** No mitigation beyond that which Applicants have volunteered.
- **Training and Drills.** SEA is considering a mitigation condition that would require the Applicants to work with the emergency service providers identified in Table 6.3-2 and to fund training or simulation drills for up to three years following implementation of the Proposed Action, to improve the communities' contingency plans for blocked at-grade crossings. Applicants shall conduct training or simulation drills in English and Spanish, upon request.
- **Community Liaison.** SEA is considering a mitigation condition that would require that the Applicants specifically include in the responsibilities of the Community Liaison (as described in VM 34 in Section 6.2.4.2, above) that he or she manage the access needs of emergency service providers. Topics for the Community Liaison to explore with the communities shall include management and operational changes to minimize the effect of blocked highway/rail at-grade crossings on emergency service providers.
- **Enhanced Communications.** SEA is considering a mitigation condition that would require the Applicants to work with the affected communities to examine and implement appropriate enhanced communications technologies to provide advanced information to emergency service providers. Technologies to be evaluated could include items such as monitors identified by the Applicants in VM 22, or video monitoring of specific highway/rail at-grade crossings.
- **Cooperative Agreements.** SEA is considering a mitigation condition that would require the Applicants to work with the affected communities to facilitate the development of cooperative agreements with other emergency service providers to share service areas and emergency call response.
- **Operational Improvements.** SEA is considering a mitigation condition that would require the Applicants to examine train operations for ways of reducing highway/rail at-grade crossing blockages, including:
 - Modifying crew change points which could cause delays
 - Altering switching patterns at customer locations to minimize impacts to highway/rail at-grade crossings routinely used by emergency service providers
- **Relocate Emergency Response Facilities.** SEA is considering a mitigation condition that would require the Applicants to work with affected communities to relocate or establish either permanent or temporary emergency facilities on the opposite side of the EJ&E rail line, to eliminate or reduce the need for the emergency service providers to cross the EJ&E tracks.

6.3.3.3 *Navigation*

SEA determined in Section 4.3.4, above, that the Proposed Action would have negligible effects on navigable waterways, and therefore, SEA does not proposed mitigation at this time.

6.3.3.4 *Airports*

The Gary/Chicago International Airport is the only airport adjacent to the EJ&E rail line potentially affected by the Proposed Action (see Section 4.3.5, above). SEA proposes the following mitigation

measure to prevent the Proposed Action from affecting the Gary/Chicago International Airport expansion plans:

- 18) Applicants shall comply with the four-party Preliminary Memorandum of Understanding (PMOU) which was announced by the Gary/Chicago International Airport, EJ&E, CSX, and NS on June 27, 2008, regarding the airport's plan to extend its main runway and to relocate the EJ&E rail line.

6.3.4 Hazardous Waste Sites

In Section 4.4.3, above, SEA determined that the Proposed Action would not affect hazardous waste sites (that is, sites that contain hazardous materials, including petroleum products, and could potentially harm human health or the environment) and therefore does not propose any mitigation at this time.

6.3.5 Land Use

SEA analyzed the effects of the Proposed Action on land use patterns and plans, development trends, zoning, public lands, and prime farmland. In addition to the Applicants' voluntary mitigation measures (see Section 6.2.4, Land Use, above) SEA is proposing a mitigation measure for coastal zone management zones, below:

- 19) Applicants shall coordinate with the Indiana Department of Natural Resources (INDNR) to demonstrate compliance with the Coastal Zone Management Act, 16 USC 1451-1456, and the Indiana Lake Michigan Coastal Program in accordance with the guidelines found in the Indiana Natural Resources Commission's Information Bulletin #43 (Indiana Natural Resources Commission 2007).

6.3.6 Socioeconomics

SEA analyzed the effects of the Proposed Action on population and demographics; economy, taxes, and property values; housing; communities and community cohesion; travel patterns; and community facilities and public services in Section 4.6.3, above. SEA identified only minor, negligible effects. The Applicants propose voluntary mitigation for schools and parks under VM 6 and VM 7 (see Section 6.2.1.1, Grade-Crossings, above) and to make Operation Lifesaver available under VM 23 (see Section 6.2.3.2., Emergency Vehicle Delay, above). SEA's proposed mitigation for delay and safety issues related to school crossings is listed above in Section 6.3.2.7 Pedestrian and Bicycle Safety.

6.3.7 Environmental Justice

SEA did not identify any disproportionate high and adverse impacts to minority or low-income populations (see Section 4.7, above). However, in recognition of the large Spanish speaking population in the Chicago metropolitan area, SEA has included in several of the recommend mitigation conditions that materials or programs are made available in both English and Spanish. In addition to those requirements, SEA proposes the following mitigation:

- 20) Within 6 months of the effective date of the Board's final decision, Applicants, with the advice and consideration of the responsible local government, shall specifically account for the special needs of minority and low-income populations adjacent to or in the immediate vicinity of the EJ&E rail line in the development of contingency or emergency plans such as the hazardous materials emergency response plan. Applicants shall provide a Spanish-language version of the response plan, as and when appropriate.

6.3.8 Energy

Section 4.8, above, contains SEA's analysis of energy issues associated with the Proposed Action. The Applicants proposed voluntary mitigation measures (see VM 43 and VM 44 in Section 6.2.5, above) that would increase the use of energy-efficient practices. SEA does not propose mitigation at this time.

6.3.9 Air Quality and Climate

SEA assessed air pollutant emissions associated with the Proposed Action in Section 4.9, above. In addition to the Applicants' voluntary mitigation measures outlined in Section 6.2.5, Air Quality, above, SEA recommends the following mitigation:

- 21) Applicants shall comply with EPA emissions standards for diesel-electric railroad locomotives (40 CFR 92) when purchasing and rebuilding locomotives.
- 22) Applicants shall notify local fire departments at least four hours before any open burning activities in the Study Area and shall obtain verbal or written permission from the fire departments prior to burning activities.

6.3.10 Noise and Vibration

SEA evaluated noise and vibration under the Proposed Action in Section 4.10, above. In addition to the Applicants' voluntary mitigation outlined in Section 6.2.6, Noise and Vibration (noise walls and other mitigation to bring noise levels down to 70 dBA), above, SEA is proposing the following mitigation:

6.3.10.1 Noise

- 23) Applicants shall design all curved track sections of 7 degrees or above in a manner that minimizes or eliminates the potential for wheel flange squeal, using guidance provided by AREMA standards. Applicants shall also install and properly maintain rail lubrication systems at curves where doing so would reduce wheel flange squeal noise for residential or other noise-sensitive receptors.
- 24) Applicants shall regularly inspect rail car wheels to maintain them in good working order and to minimize the development of out-of-round or flat wheels (that is, areas where a round wheel develops a worn flat section, leading to a clanking sound when a rail car passes). Applicants shall regularly inspect the EJ&E rail line for rough surfaces and corrugations of the rail and shall grind these surfaces, including tangent track, to provide a smooth rail surface.
- 25) Applicants shall promptly respond to community inquiries concerning the establishment of Quiet Zones and assist communities in identifying supplemental or alternative safety measures, practical operational methods, or technologies that may enable the community to establish Quiet Zones. Applicants shall work with interested communities along the EJ&E rail line that desire to establish locomotive horn Quiet Zones and help the communities identify supplemental or alternative safety measures that would allow communities to eliminate the need to sound train horns in the community in accordance with FRA's final rule on the "Use of Locomotive Horns at Highway-Rail Grade Crossings" (FR 2006).

6.3.10.2 Vibration

- 26) Applicants shall communicate regularly with the U.S. Department of Energy, Fermi National Accelerator Laboratory (Fermilab) in Batavia, Illinois, to keep Fermilab (where vibration-sensitive equipment is located) informed of operational changes. .
- 27) To minimize vibration resulting from increased train operations, including near Fermilab, Applicants shall install a Wheel Impact Load Detector (WILD) on the EJ&E rail line within five years of the effective date of the Board's final decision.

6.3.11 Biological Resources

SEA's evaluation of the effect of the Proposed Action on biological resources is contained in Section 4.11, above. The Applicants' proposed voluntary mitigation measures for biological resources under Section 6.2.4, Land Use, and Section 6.2.7, Water Resources, above. In addition to those proposed by the Applicants, SEA is proposing the following mitigation:

6.3.11.1 Plant Communities

- 28) Within one year of the effective date of the Board's final decision, Applicants shall consult with U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS), local fire and emergency response departments, appropriate state and local agencies, and interested landowners to develop an adequate plan for rapid notification, fire prevention, suppression, and rehabilitation in order to protect natural habitat.

6.3.11.2 Wildlife

As discussed in the Draft EIS, SEA does not find that wildlife is likely to be adversely impacted by the Proposed Action and therefore does not propose specific mitigation at this time. However, SEA is proposing mitigation to minimize the impacts of the Proposed Action on threatened and endangered species, below.

6.3.11.3 Federally-Listed and State-Listed Threatened and Endangered Species

- 29) Before beginning land disturbing activities associated with any construction activity related to the Proposed Action, Applicants shall survey all suitable habitats potentially impacted by the construction activity for Federally- and state-listed threatened or endangered plant species. If any listed plant species are located, Applicants shall implement a mitigation plan in consultation with, and having approval from, the appropriate Federal and state agencies.
- 30) Applicants shall coordinate with USFWS-Indiana and The Nature Conservancy (TNC) to monitor effects on the Karner blue butterfly in the West Gary Recovery Unit and to implement rail embankment maintenance plans that protects habitat for this species within reasonable railroad maintenance and safety parameters.
- 31) Applicants shall abide by the existing agreements for Paul Ales Branch operation with respect to protection of the Federally-listed Hine's emerald dragonfly.
- 32) Applicants shall identify suitable habitat for Franklin's ground squirrel within construction limits, and minimize mowing along the ROW beyond what is necessary for reasonable railroad maintenance and safety.

6.3.12 Water Resources

SEA's evaluation of water resources is described in Section 4.12, above. The Applicants' proposed voluntary mitigation (VM 54 through VM 70) measures are outlined in Section 6.2.7, Water Resources, above. They address a variety of stormwater, groundwater, and surface water protections. SEA does not propose additional mitigation at this time. In addition to the Applicants' voluntary mitigation measures, SEA is proposing the following mitigation condition:

- 33) Applicants shall consult with EPA, IEPA, and IDEM relative to sensitive surface or groundwater resources along the EJ&E as to potential measures which could be taken to protect such resources from contamination in the event of a hazardous material release from a rail car on the EJ&E.

6.3.13 Cultural Resources

SEA's discussion of the effect of the Proposed Action on cultural resources is found in Section 4.13, above. SEA found that the Proposed Action would not affect any National Register for Historic Places (NRHP)-listed or NRHP-eligible cultural resources. However, the Section 106 consultation process is ongoing, and therefore SEA recommends the following mitigation:

- 34) Applicants shall implement all mitigation developed through the Section 106 (36 CFR 800) consultation process under the National Historic Preservation Act (16 USC 470).
- 35) If an adverse effect is found, Applicants shall coordinate with the State Historic Preservation Office and/or Tribal Historic Preservation Office, and other relevant consulting parties to the Section 106 process to develop and evaluate alternatives and modifications that avoid, minimize, or mitigate the adverse effect of the Proposed Action on significant cultural resources (36 CFR 800.6). Once the consulting parties agree upon a treatment, Applicants shall enter into an executed memorandum of agreement with the other parties. If avoidance and minimization are not feasible, Applicants shall consult with the appropriate parties and determine how to mitigate the impact. After consultation and treatments have been completed, the Applicants shall implement the agreed-upon mitigation measures to treat the identified adverse effect to a significant historic property. Applicants shall consider mitigation measures such as data recovery, relocation of structures, Historic American Building Survey/Historic American Engineering Record, and other possible forms of recordation.

6.3.14 Constructions

Section 2.2.2, Proposed New Construction, above, contains a description of the Applicants' proposed rail connections and double track. SEA assessed the environmental effects of the constructions in Chapter 4, above, and proposes the mitigation as follows, in this section.

6.3.14.1 Rail Safety

SEA recommends the following general mitigation measures for rail construction safety:

- 36) Applicants shall consult with FRA, state departments of transportation, and other appropriate agencies and shall obtain necessary approvals prior to constructing, relocating, upgrading, or modifying highway/rail at-grade crossing warning devices on the EJ&E rail line.
- 37) Before starting any construction activities for the proposed connections or installation of double track, Applicants shall develop—in conjunction with the affected communities and local fire and emergency response departments along the EJ&E rail line—an

adequate plan for fire prevention and suppression and subsequent land restoration during construction and operation along the EJ&E rail line. Applicants shall submit the plan to local communities and local fire and emergency response departments. Applicants' plan shall ensure that all non-turbocharged locomotives are equipped with functional spark arrestors on exhaust stacks, and carry fire extinguishers suitable for flammable liquid fires, electrical fires, and combustible materials fires, as well as provide for the installation of low-spark brake shoes on all rolling stock and locomotives.

6.3.14.2 *Transportation Systems*

SEA recommends the following general mitigation to ensure coordinated vehicle movement during construction:

- 38) Applicants shall minimize temporary road closures during construction activities associated with the connections and double track. Applicants shall manage construction schedules to:
 - Minimize highway/rail at-grade crossing closures
 - Relay highway/rail at-grade crossing closure schedules to local emergency service providers
 - Maintain a minimum of one lane of traffic open to emergency vehicles at all times for critical highway/rail at-grade crossings

6.3.14.3 *Hazardous Waste Sites*

SEA recommends the following mitigation for hazardous waste sites:

- 39) Applicants shall use established standards for recycling or reuse of construction materials, such as ballast and rail ties. When recycling construction materials is not a viable operation, Applicants shall use disposal methods that comply with applicable solid and hazardous waste regulations.
- 40) Applicants shall follow American Society of Testing and Materials (ASTM) E1527-05, Standard Practice for Environmental Site Assessments: Phase 1 Environmental Site Assessment Process, prior to construction activities related to the Proposed Action in areas where potential contamination may be encountered (ASTM 2005). If Applicants encounter contamination (or signs of potential contamination) during these activities, Applicants shall perform a Phase 2 environmental investigation.

6.3.14.4 *Land Use*

SEA recommends the following mitigation for effects on land use due to construction of the connections and double track:

- 41) Applicants shall review the limits of land disturbance prior to construction to determine whether any U.S. Department of Commerce, National Geodetic survey monuments (that is, a government owned permanent survey marker) would be disturbed. If any survey monuments would be disturbed, Applicants shall give a 90-day notification to the U.S. Department of Commerce.
- 42) Applicants shall store equipment and materials in established storage areas or on Applicants' property.
- 43) Applicants shall consult with the appropriate state and county personnel prior to construction activities on state land.

- 44) Applicants shall maintain access to all existing trails, greenways, and scenic corridors during construction.
- 45) Applicants shall notify the trail managers of new construction that intersects trails during final design.
- 46) Applicants shall provide trail continuity to the extent practicable during construction. If temporary trail closures are required during construction, Applicants shall provide appropriate signage to detour pedestrian and recreational trail users to a safe alternate route.

Proposed Connections

- 47) At least 10 business days before construction of the Applicants' Proposed Munger Connection in the Pratt's Wayne Woods Forest Preserve, Applicants shall flag the boundaries of the CN ROW, the EJ&E ROW, and the portion of the Commonwealth Edison ROW required for construction. All construction shall remain within the flagged boundaries; no construction shall take place on property owned by the Forest Preserve District of Du Page County.
- 48) Applicants shall maintain access during construction activities to all existing roads, trails, and facilities within the Pratt's Wayne Woods Forest Preserve.
- 49) Prior to construction Applicants shall flag the boundary of the Applicants' Proposed Joliet Connection adjacent to the Illinois & Michigan (I&M) Canal Trail. Applicants shall not allow construction-related activities outside of the flagging or on the I&M Canal Trail.
- 50) Prior to construction Applicants shall flag the boundary of the Applicants' Proposed Matteson Connection adjacent to the Old Plank Road Trail. The Applicants shall not allow construction-related activities outside of the flagging or on Old Plank Road Trail.
- 51) If the Munger Alternative-UP connection is constructed Applicants shall coordinate with NRCS for applicable prime farmland requirements.
- 52) If the Munger Alternative-UP connection is constructed, Applicants shall adhere to the replacement of land (Brewster Creek Fen) in kind to what is permanently taken.

Double Track

- 53) Prior to construction Applicants shall coordinate with Hawthorn Woods regarding its scenic corridor requirements and may be required to limit the construction of double track to 50 feet east of the existing Gilmer Road scenic corridor ROW.

6.3.14.5 *Noise and Vibration*

SEA recommends the following mitigation for potential effects due to construction-related vibration:

- 54) Applicants shall implement best management practices when developing construction plans and performing construction-related activities to ensure that construction-related vibration effects are minimized.

6.3.14.6 *Biological Resources*

SEA recommends the following mitigation for potential effects on biological resources:

- 55) Applicants shall immediately cease construction in affected areas should these activities affect previously unidentified threatened or endangered species, or unknown populations

of Mead's milkweed or Eastern prairie fringed orchid. In that event, Applicants shall contact USFWS for guidance on how to protect these species or to mitigate for potential losses.

- 56) Prior to construction, Applicants shall develop a mitigation plan in consultation with and with approval from the appropriate state and Federal agencies. Applicants shall survey all suitable habitats within construction limits for Federally- and state-listed threatened or endangered plant species.
- 57) If the proposed Ivanhoe connection is constructed, Applicants shall consult with USFWS-Indiana, Indiana Department of Environmental Management (IDEM), other appropriate Federal and state agencies, and TNC (as a party to the Karner blue butterfly Safe Harbor Agreement) to develop and implement a plan for the restoration of dune and swale habitat characteristics in the acquired lands associated with the proposed Ivanhoe connection.
- 58) Applicants shall not knowingly include any Illinois or Indiana state-listed or Federally-listed invasive weed species in seed mixes for construction disturbance areas revegetation.
- 59) Applicants shall implement best management practices while performing construction activities in wetlands or other waters of the United States to avoid adverse downstream impacts on fish, mussels, and other aquatic biota.
- 60) If the proposed Munger connection is constructed, Applicants shall use disturbance screens to minimize bird disturbance.
- 61) Prior to the start of construction related to the Proposed Action, Applicants shall reexamine the USFWS list of threatened or endangered species for any newly listed species and will consult with SEA and the USFWS on any newly listed species.
- 62) For all construction activities related to the Proposed Action, Applicants' contractor shall wash all construction equipment at the contractor's storage facility prior to entering the construction site. Applicants' contractor shall inspect all construction equipment and remove all attached vegetation debris prior to leaving the construction site.

6.3.14.7 Water Resources

SEA recommends the following mitigation for effects on water resources:

- 63) Applicants shall obtain all Federal, state, and local permits required by the U.S. Army Corps of Engineers (USACE) under Section 401 and 404 of the Clean Water Act (CWA) and Section 10 of Rivers and Harbors Act for alteration of wetlands, ponds, lakes, streams, or rivers (that is, waters of the U.S.) as a result of construction activities related to the Proposed Action.
- 64) Applicants shall compensate in accordance with USACE regulations in both Illinois and Indiana for wetland impacts that cannot be avoided and for impacts that are determined by USACE to be on waters of the U.S. for construction related to the proposed action. USACE applies a wetland mitigation replacement ratio of 1.5:1 to 3:1 (replacement to impact ratio) for impacts on wetlands determined to have a direct connection to waters of the U.S. Mitigation can take the form of restoring on-site wetlands, constructing new wetlands on site, constructing new wetlands off site, and/or purchasing wetland banking credits.
- 65) Applicants shall compensate for impacts on isolated wetlands according to the regulations of the State of Indiana for construction activities related to the Proposed Action. Isolated wetlands in Indiana are regulated as State Regulated Wetlands (SRWs)

under 327 Indiana Administrative Code (IAC) 17. The State of Indiana applies a wetland mitigation replacement ratio of 1:1 to 3:1 for impacts on isolated wetlands.

- 66) For construction activities related to the Proposed Action, Applicants shall mitigate for impacts on isolated wetlands according to the regulations of Lake and DuPage counties in Illinois. Lake and DuPage counties each have specific mitigation requirements for impacts on isolated waters and their associated buffer areas. Replacement can take the form of restoring on-site wetlands, constructing new wetlands on site, constructing new wetlands off site, or purchasing wetland banking credits, depending upon specific county requirements.
- 67) When performing construction activities related to the Proposed Action, Applicants shall not impact existing wetlands in order to create the ponds or stormwater detention that may be required for the management of stormwater runoff.
- 68) When performing construction activities related to the Proposed Action, Applicants shall avoid increasing upstream flood elevations in Federal Emergency Management Agency (FEMA)-regulated floodplains and shall obtain Letter of Map Revision (LOMR) from FEMA where construction of bridges, culverts, or embankments result in an unavoidable increase in 100-year flood elevations greater than 0.1 foot.

6.3.14.8 Cultural Resources

SEA recommends the following mitigation for potential effects on cultural resources:

- 69) During construction activities related to the Proposed Action, Applicants shall immediately cease excavation work if archeological resources are encountered during construction activities. Applicants shall inform and consult with the appropriate State Historic Preservation Office and/or appropriate Tribal Historic Preservation Office regarding appropriate measures for addressing the resource.

6.4 Community Agreements

As previously noted, SEA has not yet received any negotiated agreements from the Applicants with affected communities and other government entities to address potential environmental impacts as of publication of this Draft EIS. SEA encourages the Applicants and interested agencies and parties to negotiate mutually acceptable agreements wherever possible. If the Applicants submit any negotiated agreements with communities or other entities to the Board following publication of this Draft EIS, the Board would then require compliance with the terms of any such agreements as environmental conditions in any final decision approving the Proposed Action. The negotiated agreement would supersede any environmental mitigation for that particular community or other entity that the Board would otherwise impose.

6.5 Monitoring and Enforcement

Finally, SEA proposes the following conditions relating to monitoring and enforcement of the mitigation imposed.

- 70) If there is a material change in the facts or circumstances upon which the Board relied in imposing specific environmental mitigation conditions, and upon petition by any party who demonstrates such material change, the Board may review the continuing applicability of its final mitigation, if warranted.
- 71) Applicants shall retain a third-party contractor to assist SEA in the monitoring and enforcement of mitigation measures on an as-needed basis until Applicants have

completed construction activities, as well as a period covering the first three years of operational changes, or for any period the Board imposes.

- 72) Applicants shall submit quarterly reports to SEA on the progress of, implementation of, and compliance with the mitigation measures for a period covering the first three years of operational changes, or for any period the Board imposes.

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